## Conceptual Framework of Measures of Socioeconomic Status and Other Sociodemographic Characteristics

<table>
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<tr>
<th>Concept</th>
<th>Domains Included in Current Recommended Survey</th>
<th>Rationale</th>
<th>Domains Remaining to be Operationalized</th>
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</table>
| Age     | • Date of birth  
         | • Age                                                   | Assessing date of birth tends to be more accurate than asking age. We use both and recommend cross validating and correcting inconsistencies at the time of the survey. |                                       |
| Race/ethnicity (self-identified) | • Main group or multiethnic  
                                | • If Latino/Hispanic, Asian, query subgroups  
                                | • If multiethnic, query main group they identify with | We use groupings defined by the U.S. Census with some adaptations. In contrast to the Census, Latino/Hispanic conceptually should be treated as one ethnic group rather than as “ethnicity” independent from race. Because Latinos in the San Francisco Bay Area tend to be primarily Central and Mexican American, the prevalence of Black Hispanics is low. National origin is obtained separately for all respondents (below).  
For Bay Area research, Latino and Asian ethnic national origin need to be assessed, to describe the mix within the larger ethnic group, and possibly analyze data by national origin.  
We included multiethnic as one response choice rather than have people check all that apply. Those who check multiethnic then choose the one group they most identify with. Because the multiethnic category is often too small to analyze separately, querying about the group they most identify with enables most to be classified within their primary group for analytic purposes.  
We supplemented the U.S. Census terminology by adding popular alternatives of the ethnic labels to increase their recognition by respondents and acceptability (e.g., African American or Black). | • Culture, religion, and other variables closely associated with race/ethnicity. Need to determine how to include Middle Eastern, distinguish other cultures).  
• Additional national origin groups need to be developed for other regions of the U.S.  
• Add other national origin groups for California based on California census data (e.g., Middle Eastern, Arab-American) |
| Place of birth, generation | • Country of origin of self  
                                | • Country of origin of parents and paternal and maternal grandparents  
                                | • For those not born in U.S.: --years living in U.S.  
                                | • --age first immigrated  
<pre><code>                            | • --main reason for immigrating | A set of variables pertaining to immigration experiences will enable studies of how immigration affects health disparities. These can be used descriptively or combined to classify respondents into meaningful subgroups pertaining to “exposure” to U.S. culture at different lifecourse phases, and identify whether immigration was a discretionary choice. | |
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| Language and language proficiency | ▪ Current English language proficiency  
▪ Main language (language spoken growing up) For persons whose main language is not English:  
▪ Current “other” language proficiency | **English Language Proficiency**  
We assess English language proficiency of all respondents. This is in contrast to asking this question only for those who have another primary language and avoids problems in identifying those who might not be proficient for whom the question is most relevant.  
Although the U.S. Census asks how well the person speaks English, we added items to ascertain proficiency understanding, reading, and writing. Those wishing to calculate those with limited proficiency “speaking” English can utilize that item from the set of four.  
We improved the response choices to be semantically equivalent when translated into Spanish.  
**Main Language**  
The U.S. Census asks if the person speaks a language other than English at home (current language use at home). We believe that determining whether they spoke another language as a child is a better indicator of primary language than current language use. Also, for persons who live alone, the language they speak at home is not applicable. We improved this by assessing primary language in terms of whether they spoke another language as a child.  
**Other language proficiency**  
If they spoke another language, we assess proficiency in their other language to identify those who may have limited English proficiency but can utilize information in another language. Questions about which language they speak the most are addressed in the section on language acculturation. | ▪ Literacy  
▪ Health literacy  
▪ Numeracy |
| Acculturation and enculturation (for immigrants) | ▪ Language acculturation  
▪ Language preference for receiving medical care | **Language acculturation**  
We include the standard language acculturation scale (Marin et al., 1987) because of its widespread use, and to enable comparisons of our approach to language proficiency with language behavior. It asks about use of language in certain activities as well as self-identity.  
**Language preference for receiving medical care**  
We directly assess language preference for receiving medical care, which may or may not correspond to their preferred language in other contexts, given that medical problems may be sensitive and difficult to describe. | ▪ Acculturative stress  
▪ Identification with old/new culture  
▪ Language preference for receiving written health information |
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| Education                    | • Highest grade or year  
  • Highest degree (including GED)  
  • Vocational or technical training | We assess education in terms of: 1) highest grade or year completed, including "no formal schooling," and 2) highest degree earned, including distinguishing GED (high school equivalency) from a high school diploma. This enables us to derive a single education variable that can discriminate persons at the lower end of the scale (e.g., distinguish less than 8th grade from less than high school) and also specify milestones or credentials which tend to be more important in gaining “power” and “resources” that may be related to health.  
  We assess vocational or technical training separately including number of years, kind (write in), and whether a certificate of completion was obtained. This enables research into whether vocational/technical/trade school can “buy” health benefits that are equivalent to academic degrees. We recommend providing some examples in the early testing phases of these questions (e.g., beauty school, health aide). | • Location of education  
• Point in time when education obtained  
• Age received final education  
• Quality of education  
• Lifecourse education |
| Family and household configuration | • Marital status | As a starting point for determining household configuration, which can be important in terms of adjusting household income and consideration of social resources, we begin with marital status. | | • Family and household configuration  
• More than one family within a structure/home |
| Financial Status             | • Annual household income before taxes  
  • Number of people supported by income | To reduce missing data, we ask first a single cutpoint question (i.e., is their income above or below some point) which people are more willing to answer, and which many respondents will know even if they do not know the exact amount. If the cutpoint is selected to reflect some “lower” income point, this variable can be useful regardless of whether any other questions on income are answered.  
  Issues: 1) it is tedious and confusing, particularly to lower SES respondents, to read/listen to a list of all possible sources of income (e.g., salary, social security, annuities, pensions, unemployment benefits, public assistance, interest/dividends, rental properties, child support, and alimony), 2) this is compounded by the need to include types of income relevant to both high and low income respondents, and 3) some sources may be offensive to lower income persons (e.g., rental properties, capital gains). Thus, we simply ask about income received from ALL sources. | • Income instability  
• Wealth/assets  
• Poverty – formal receipt of assistance  
• Poverty – defined by cutpoint on income and family size  
• Determine how to enable respondents to answer about income in ways they think about it most accurately (weekly, monthly, or annually) |
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| Financial strain    | Current financial strain  
  - Global financial strain  
  - Basics financial strain - insufficient money for food, rent/house payment, utilities  
  - Financial strain for health care  
    – global  
    – prescriptions | We have included questions about financial strain for two reasons: 1) respondents who do not know precisely their income and/or do not wish to report it may be willing to respond to questions about financial strain, and 2) we hypothesize that financial strain is more highly associated with health problems than income.  
Because these are new, we included two approaches: 1) globally (not enough money to meet daily needs or monthly bills), and 2) specifically (not enough for food, rent, or utility bills).  
We also assess financial strain in relation to health care (out of pocket costs), which may be directly related to health problems. Again, we do so globally (insufficient money for medical care) and specifically (insufficient money to pay for prescription drugs, which tend to be the most expensive component of health care). | - Lifecourse financial strain  
- Put off medical care due to financial strain  
- Put off filling prescriptions due to financial strain |
| Subjective social status | Subjective status compared to community | In terms of assessing SES, there is increasing focus on perceived or subjective social status, thus we included one of the two items being used – comparing one’s social standing to others in one’s community. We used an item adapted by Jennifer Haas in the Women and Infants Starting Healthy (WISH) study to allow for telephone administration. | - Subjective status compared to U.S.  
- Lifecourse: subjective status of childhood  
- For immigrants: subjective social status in country of origin |
| Health insurance     |                                                                                                              |                                                                                                                                             | - Any insurance  
- Type of insurance  
- Deductible/copay  
- Covered services |
| Occupation           |                                                                                                              |                                                                                                                                             | - Current occupation(s)  
- Typical occupation if > 1  
- Past occupation(s)  
- Stability of occupation(s)  
- Occupational status  
- Occupational exposure to toxins  
- Occupational autonomy  
- Occupational safety (% job-related injuries by occupation) |
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<td>• Employed (full time, part time, out of work)</td>
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<td></td>
<td></td>
<td></td>
<td>• Number of jobs</td>
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<td></td>
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<td></td>
<td>• Employment schedule (days, nights, erratic/stable)</td>
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<td></td>
<td>• Employment stability</td>
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<tr>
<td></td>
<td></td>
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<td>• Retired/disabled (not in the job market)</td>
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